IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An apparatus adapted for *in vitro* conditioning of cells prior to ~~administration of the cells into tissue of myocardium in~~ a cell therapy, the apparatus comprising:

a culturing module to host the cells and a culturing medium;

a cardiac electrical stimulator coupled to the culturing module and adapted to create cardiac electrical conditions in the culturing medium by delivering electrical stimuli, the cardiac electrical conditions simulating electrical conditions in the myocardium that result in cardiac contraction;

a myocardial stress simulator coupled to the culturing module and adapted to create a mechanical stress upon the cells by delivering mechanical stimuli, the mechanical stress simulating a tension applied upon cardiac muscle cells in the myocardium;

a biological treatment administration module coupled to the culturing module and adapted to deliver biological stimuli;

a memory circuit including an instruction set adapted to condition the cells for administration into tissue of myocardium, the instruction set defining a predetermined sequence of one or more of the electrical, mechanical, and biological stimuli; and

a controller coupled to the cardiac electrical stimulator, the myocardial stress simulator, [[and]] the biological treatment administration module, and the memory circuit, the controller adapted to control ~~a delivery of one or more stimuli from one or more of~~ the cardiac electrical stimulator, the myocardial stress simulator, and the biological treatment administration module by automatically executing the instruction set.

2. (Original) The apparatus of claim 1, further comprising two or more electrodes, connected to the cardiac electrical stimulator and disposed in the culturing medium, to allow delivery of at least one electrical stimulus to the cells.

3. (Original) The apparatus of claim 2, wherein the electrical stimulator comprises a pacemaker.

4. (Original) The apparatus of claim 3, wherein the cardiac electrical stimulator comprises an electric field generator.

5. (Original) The apparatus of claim 1, wherein the culturing module comprises a deformable culturing substrate allowing the cells to be plated thereon.

6. (Original) The apparatus of claim 5, wherein the deformable culturing substrate is made of silicone.

7. (Original) The apparatus of claim 6, wherein the myocardial stress simulator comprises a variable speed motor and a mechanical linkage coupled between the variable speed motor and the deformable culturing substrate, the variable speed motor and the mechanical linkage adapted to create a calibrated cyclic mechanical tension upon the deformable culturing substrate.

8. (Original) The apparatus of claim 1, wherein the biological treatment administration module comprises one or more chemical dispensers adapted to release one or more biological stimulation agents into the culturing medium.

9. (Original) The apparatus of claim 8, wherein the culturing module comprises a mixer adapted to create and maintain a homogeneous culturing medium.

10. (Original) The apparatus of claim 1, further comprising a user interface coupled to the controller, the user interface including a use input accepting commands.

11. (Canceled)

12. (Currently Amended) The apparatus of claim [[11]] 10, wherein the user interface comprises a display screen.

13. (Original) The apparatus of claim 12, further comprising a monitor coupled to the culturing module, the monitor adapted for observation of the cells in the culturing module.

14. (Original) The apparatus of claim 13, wherein the monitor comprises a microscope, coupled to the controller and the user interface, to allow observation of the cells on the display screen.

15-72. (Canceled)

73. (Currently Amended) The ~~system~~ apparatus of claim [[72]] 1, wherein the controller is adapted to allow adjustment of parameters in the instruction set during the *in vitro* conditioning of the cells.

74. (Currently Amended) The ~~system~~ apparatus of claim 7, wherein the mechanical linkage is adapted to allow the culturing substrate to be stretched and relaxed in two or more directions without vibration and hesitation.

75. (Currently Amended) The ~~system~~ apparatus of claim 1, wherein the biological treatment administration module comprises an array of dispensers each adapted for release of a predetermined amount of one or more of chemical and biological agents into the culturing medium.

76. (New) The apparatus of claim 3, wherein the controller is adapted to control a pacing voltage and a pacing pulse width.

77. (New) The apparatus of claim 5, wherein the controller is adapted to control a frequency and a degree of cell deformation.

78. (New) The apparatus of claim 8, wherein the controller is adapted to control a volume and a concentration of each of the one or more biological stimulation agents.

79. (New) The apparatus of claim 14, wherein the controller is adapted to process an image of the cells and present the image on the display screen.